

Mathematicians develop a prediction app for personalized sarcoma care

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The DASPO-group for data analysis and survival in personalized sarcoma at the Mathematical Institute has developed an app that provides personalised predictions for patients suffering from soft tissue sarcomas. Due to the aggressive nature of such tumors, the prognosis for such patients is poor, even after surgery to remove the initial tumor. Local recurrence (tumor growth at site of surgery) and distant metastasis (tumor growth at a different site) are common, but there is considerable variation between patients. The lack of a validated prediction model including treatment modalities inspired the development of PERSAC, a personalised sarcoma care prediction model.

The PERSARC app

Clinicians can now use the [prediction model](#) in the form of an app, available in the [Appstore](#) and [Google play store](#). It predicts a patient's probability of surviving 3, 5, and 10 years from time of surgery as well as the probabilities of developing a local recurrence within that time, based on patient- and disease-specific characteristics. The model includes treatment modalities, which have been found to have a significant association to survival. It was developed by Anja Rüten-Budde and Veroniek van Praag, Ph.D.-students at the MI and LUMC, and project leaders Marta Fiocco (MI) and Michiel van de Sande (LUMC). The project is funded by the Dutch Cancer Society (KWF).

The current model only provides predictions from time of surgery, but future versions of the app will include a dynamic [model](#) that allows for inclusion of updated patient information, such as development of a local recurrence or distant metastasis during follow-up. This will yield updated predictions from different time points during follow-up.

More information: Veroniek M. van Praag et al. A prediction model for treatment decisions in high-grade extremity soft-tissue sarcomas: Personalised sarcoma care (PERSARC), *European Journal of Cancer* (2017). [DOI: 10.1016/j.ejca.2017.06.032](https://doi.org/10.1016/j.ejca.2017.06.032)

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